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EXAMINER

LE, BRIAN Q

ART UNIT PAPER NUMBER

2623

DATE MAILED: 01/29/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/637,456

Applicant(s)

HOOK, TIMOTHY J. VAN

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-11, 14-15 is/are rejected.
- 7) ☒ Claim(s) 9 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment and Arguments

1. Applicant's amendment filed December 18, 2003, has been entered and made of record.
2. Applicant's arguments with regard to claims 1-11 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding claims 1-4, the Applicant argues (on page 9) that Bhargava does not teach the limitations (b) defining a tile format table, separate from the data storage of said tiles, containing a status entry for each of said plurality of tiles. As interpreted by the Examiner due to the broad claiming language (see the bold and underline text), one skilled in the art would agree that FIG. 13-A indicates a file format table which also indicates the separation from tile data containing a status entry (header information). Furthermore, specification does not show the "tile format table, **separate from data storage of said tiles**, containing a status entry for each of said plurality of tiles". Also, the Applicant argues (on page 8) that Bhargava does not teach limitation (d) "setting said status entry for each of said tiles in said tile format table, wherein said status entry indicates the memory size of each of said tiles after compression, with a full size indicating a non-compressed tile." The Applicant further argues that {dx, dy, dz} entries in the table do not have the memory size of compressed tiles and compression status of the tiles. Applicant's arguments are directed toward various portions of Bhargava cited by the Examiner. The Examiner points out that the rejections were based upon the entire reference. Therefore, Applicant is urged to consider the reference as a whole. When considering the cited portions within context the whole patent, it is seen that the claimed invention is rendered obvious. The Examiner would like to point the Applicant to column 2, lines 50-53 and column 6, lines 53-67 of Bhargava's reference. These portions of the reference indicate the compressed information

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and image change information. It would have been obvious for one skilled in the art that compressed information and image change information would have the memory size/memory status/compress information of the compressed image. In addition, specification does not show the “setting said status entry for each of said tiles in said tile format table, wherein said status entry **indicates the memory size of each of said tiles after compression, with a full size indicating a non-compressed tile.**” (Emphasis added).

Thus, the rejections of all of the claims are maintained.

Drawings

3. The drawing submitted on December 18, 2003 is of insufficient quality for publication (Note handwritten portions). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 5, 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claims 1 and 5, the specification does not show the “tile format table, **separate from data storage of said tiles**, containing a status entry for each of said

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plurality of tiles". In addition, specification does not show the "setting said status entry for each of said tiles in said tile format table, wherein said status entry **indicates the memory size of each of said tiles after compression, with a full size indicating a non-compressed tile.**" (Emphasis added). Also to claims 14 and 15, nowhere in the specification shows the "status entry further indicates the validity of data in said tile".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 10-11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bhargava U.S. Patent No. 5,471,248 and Jung U.S. Patent No. 5,805,226.

Regarding claim 1, Bhargava teaches a method of compressing data in a graphics processing system (column 2, lines 15-23) comprising:
Defining a plurality of tiles of data (column 2, lines 32-36);
Defining a tile format table (FIG. 13 A), separate from data storage of said tiles, containing a status entry (header information) for each for each of said plurality of tiles (column 10, lines 10-17);
Setting said status entry for each of said tiles in said tile format table (column 13, lines 30-45), wherein said status entry indicates the memory size (the compressed information and image

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change information) of each of said tiles after compression, with a full size indicating a non-compress tiles (column 2, lines 50-53 and column 6, lines 53-67);

Storing said compressed tile in a memory (column 4, lines 20-22 and column 16, lines 22-25, 30-37).

Bhargava does not teach the concept of determine the selection of the compressed tile if the compressed tile is smaller than the uncompressed tile. Jung discloses a method of encoding (compress) blocks of video signal included frames that divided into blocks (tile) (Abstract, first 4 lines) and determining (FIG. 2, element 400) whether to select (FIG. 2, 500) the compressed tile (FIG. 2, element 300) over the uncompressed tile if the compressed tile is smaller than the uncompressed tile (column 4, lines 62-67 and column 5, lines 1-2). Modifying Bhargava's method of compressing data in a graphics processing system according to Jung would able to choose the smaller data size between the compressed and uncompressed tile to reduce the information contained in the video signal and thus free the bandwidth (column 5, lines 17-22). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Bhargava according to Jung.

For claim 2, Bhargava teaches a method wherein said compression is lossless (Huffman) (column 13, line 14 and FIG. 12, element 120).

Referring to claim 3, Bhargava discloses the method wherein each of said tiles comprises a cache line (A computer inherently has a cache line) (column 8, lines 50-55).

Regarding claim 4, Bhargava teaches the method wherein tiles read from said memory are decompressed (FIG. 6 and column 8, lines 62-67) when said status entry (header information bit) indicates that said tile is a compressed tile (FIG. 13 A).

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Regarding claim 5, please refer back to claim 1 for the explanation.

For claim 6, Bhargava teaches the method wherein each compressed tile is compressed using one of a plurality of compression methods (Huffman) (column 13, line 14 and FIG. 12, element 120).

Regarding claim 7, Bhargava teaches the method wherein each compressed tile includes a value identifying the compression of said plurality of compression methods used to compress said compressed tile (FIG. 13 A and column 7, lines 50-60).

For claim 8, Bhargava teaches the method wherein each tile is comprised of pixels having pixel color components (RGB pixels) (column 8, lines 15-16 and column 12, lines 10-15).

For claim 10, Bhargava teaches the method in which the assignment of entropy encodes per tile (column 13, lines 10-15) is based on the frequency of occurrence (calculate the repeated cycle) (column 5, lines 33-34) of difference values (column 5, lines 34-36) within said tile (Also, one skilled in the art would know this is the definition of entropy coding).

Regarding claim 11, Bhargava teaches the method in which multiple component difference codes (pixel intensities convert into a single value) are combined into a single code per pixel (column 4, lines 65-67).

For claims 14 and 15, Bhargava further teaches the method wherein said a status entry further indicates the validity of data (data calculation) in said tile (column 7, lines 44-47).

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Allowable Subject Matter

8. Claims 9 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Contact Information

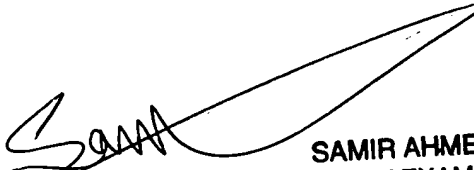
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL

January 23, 2004


SAMIR AHMED
PRIMARY EXAMINER
~~RECEIVED~~
~~SAMIR AHMED~~